

REMARKS/ARGUMENTS

Consideration by the Examiner of amendments to the specification made in the last filed response of Aug. 9, 2004 is appreciated and it is presumed that such amendments have now been entered.

I. Status of the Claims and Amendments:

Claims 115 - 121 added in the prior response and removed from consideration by the Examiner have been added again in this RCE. The new claims do not introduce new matter. Support for the new claims can be found throughout the specification and drawings as originally found. For example, support for use of a tentacle strong anion exchange resin having a TMAE functional group can be found, among other places, in paragraphs [0021], [0031], [0045], [0049 - 51], [0061 - 62], and [0077].

II. Rejections under 35 U.S.C. § 103

The Examiner has cited the combination of Wan, Kasai and Koller in making the outstanding obviousness rejection. Wan is asserted to teach static mixing but it is conceded that Wan does not teach anion exchange or hydrophobic interaction chromatography. All present pending claims include limitations to plasmid purification using tentacle anion exchange resins with dependent claims to use of a resin having a trimethylaminoethyl (TMAE) functional group. Koller is asserted by the Examiner to teach purification of DNA by TMAE chromatography and thus provide a bridging nexus to the asserted static mixing of Wan. However, Koller does not in any way teach or suggest purification of DNA by TMAE chromatography. Koller is directed to the purification of a protein, the HIV-1 reverse transcriptase enzyme. Purification of proteins and nucleic acids are fundamentally different and non-analogous to those of skill in the art.


Applicant surprising found that ion exchange chromatography of plasmid DNA solutions using the TMAE tentacle anion exchange resin, exemplified by TMAE Fractogel 650 resulted in significant purification and that the capacity of the resin made it suitable for large scale manufacturing. Applicant believes the present application to teach the first use of tentacle based anion exchangers, and particularly TMAE anion exchanger, in plasmid purification.

None of the references, alone or in combination teach or suggest tentacle based anion exchange chromatography or TMAE anion exchange chromatography for plasmid purification. To the extent the independent claims are patentable, the dependent claims are similarly in condition for allowance.

Conclusion

For the reasons stated herein, the Applicant respectfully submits that independent claims 104 and 115 are allowable and that the dependent claims are, in turn, also allowable. Applicant respectfully requests allowance of the claims at an early date. The Commissioner is authorized to charge any additional fees incurred in this application or credit any overpayment to Deposit Account No. 50-1922. Should the Examiner have any questions, please do not hesitate to call Applicant's attorney at 832-446-2421.

Respectfully submitted,

By 

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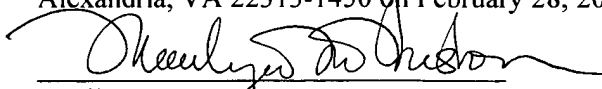
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